

# BIOCHEMISTRY WITH A MEDICAL PERSPECTIVE

Online Biochemistry Course, Faculty of Medicine, University of Toronto, Canada

## Course Schedule (SCS-2472-041)

Winter Semester 15 January 2024 to 25 May 2024

Week	Section / Online Quiz	Dates (Week Start)	Video Lecture Topics	Lecturer	Text Chapter	Clinical Insights By Dr. Murray
1 & 2	<b>Biochemistry Basics and Proteins</b>	15 Jan 2024	Course Introduction to Biochemistry Water and pH Amino Acids Protein 3D Structure	Dr. Reithmeier	1 2 3 4 5	Water and pH Balance Vitamin C Deficiency Causes Scurvy
	<b>Quiz 1</b>	<b>29 Jan 2024</b>				
3 & 4		29 Jan 2024	Enzymes Hemoglobin	Dr. Baker	6-8 9	Variations in Km Can Have Physiological Consequences Sickle Cell Anemia
	<b>Quiz 2</b>	<b>12 Feb 2024</b>				
5 & 6		12 Feb 2024	Carbohydrates Lipids Membranes: Structure and Function	Dr. Baker Dr. Reithmeier	10 11 12, 13	Lactose Intolerance Digitalis
	<b>Quiz 3</b>	<b>26 Feb 2024</b>				
7 & 8	<b>Metabolism</b>	26 Feb 2024	Metabolism, Glycolysis Glycogenolysis PDC, TCA, ETC, Ox.Phos/PMF	Dr. Baker	15, 16 24 18 – 21	Exercise Depends on Various Means of Generating ATP Beriberi-A Disease Due to Deficiency Of Thiamine (Vitamin B-1)
	<b>Quiz 4</b>	<b>11 Mar 2024</b>				
9 & 10		11 Mar 2024	Fat Catabolism, Fat Synthesis Insulin Glycogen Synthesis Diabetes GNG	Dr. Baker	27-29 13, 27 25 27 17	Hyperglycemia GSDs
	<b>Quiz 5</b>	<b>25 Mar 2024</b>				

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11 & 12		25 Mar 2024	Cholesterol Lipoproteins Eicosanoids PI Synthesis and Signalling AA Synthesis and Degradation	Dr. Baker   Dr. Reithmeier	29 29 28 29, 13 30, 31	<b>Tay-Sachs Disease</b> <b>Inherited Defects Of The Urea Cycle Cause Hyperammonemia</b>
	<b>Quiz 6</b>	<b>8 Apr 2024</b>				
13 & 14	<b>Nucleic Acids</b>	8 Apr 2024	Nucleic Acid Structure Nucleotide Metabolism DNA Replication DNA Repair	Dr. Kelley Dr. Reithmeier Dr. Kelley	33 32 34 35	<b>Some Genetic Diseases Are Caused by The Expansion of Repeats of Three Nucleotides</b> <b>Cancers Are Caused by Defective Repair of DNA</b>
	<b>Quiz 7</b>	<b>22 Apr 2024</b>				
15 & 16		22 Apr 2024	Transcription Gene Expression, Regulation RNA Processing	Dr. Kelley	36 37 38	<b>Mutations that Affect pre-mRNA and Alternative Splicing Cause Disease</b>
	<b>Quiz 8</b>	<b>06 May 2024</b>				
17 & 18		06 May 2024	Genetic Code, tRNAs and Amino Acids Translation, Translation Regulation Protein Secretion Recombinant Technologies, CRISPR	Dr. Kelley Dr. Wyatt	39 40 40 41	<b>Some Antibiotics and Some Toxins Act by Inhibiting Protein Synthesis</b> <b>Gene Therapy, Transgenic Animals</b>
	<b>MOCK Quiz</b>	<b>Available 20 May 2024</b>				

## Final Examination 2024

### Date

25 May 2024

### Time

3 hrs

### Material Tested

Final exam includes all topics covered throughout the course